



KILOVAC EV600 High Voltage Contactor

Rugged 600 Amp Contactor Featuring Bi-Directional Power Switching and Increased Rupture Capability

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RUGGED

- Designed for harsh environments

VERSATILE BI-DIRECTIONAL POWER SWITCHING

- Not polarity sensitive
- Withstands higher current pulse without levitation

RELIABLE

- Rated at 600 Amps
- Increased current interrupting capability
- Increased rupture and dielectric capability

ENHANCED PERFORMANCE

- Dual coil electronic “cut-throat” economization increases low power holding capability
- Eliminates the possibility of noise caused by PWM

Description

The EV600 high voltage contactor is designed for harsh environments offering higher continuous current carrying rating, and improved current interrupting capability over our existing EV200.

Key enhanced features include:

- Bi-directional power switching with increased rupture capability and dielectric life
- Dual coil economization that improves low power holding capability
- Form A auxiliary contact

APPLICATIONS

- Power Distribution
- Motor Control Circuit Isolation
- Circuit Protection
- Alternative Energy
- Energy and Battery Storage

MARKETS

- Military Ground Vehicles
- Commercial Ground Vehicles
- Test Equipment
- Charging Systems

TE Components . . . TE Technology . . . TE Know-how . . .

AMP | AGASTAT | CII | HARTMAN | KILOVAC | MICRODOT | NANONICS | POLAMCO | Raychem
SEACON | Rochester | DEUTSCH

Empower Engineers to Solve Problems, Moving the World Forward.



Performance Characteristics

Electrical

| | | |
|---|--------|---|
| Voltage Rating: Main Contacts (1) | Vdc | 28-1000 |
| Current Rating, Continuous: Main Contacts (2) | A | 600A |
| Contact Resistance: Main Contacts (3) | mΩ | 0.2 max @ 600A |
| | mV | 110 max @ 600A |
| Aux Contacts: | | mΩ 150 @ 1A |
| Hot Switching Performance, Resistive Load | | |
| 200A make/ break @ +/-400Vdc | cycles | 4000 |
| 600A make/break @ +/-400Vdc | cycles | 10 |
| 3000A carry/break @ +/- 400Vdc | cycles | 2 |
| Maximum pulse through closed contacts (4) | Amps | +/-4000 |
| Mechanical Life (min) | cycles | 100,000 |
| Dielectric Withstand Voltage | | |
| Terminal to Terminal | | 10kVdc |
| Terminals to Coil | | 3950Vdc |
| Insulation resistance | | |
| Terminal to Terminal/Terminals to Coil | | 100MΩ min @ 500Vdc 50MΩ min @ 500Vdc end of life |

- (1) Maximum Load Interrupt at 1000Vdc = 250Adc
- (2) Keep relay terminals below 150°C max continuous, 175°C max for two hours, and 200°C for 1 minute. 214 mm sq. conductor size recommended for 600A carry (2X 4/0 AWG). See derating curve for current vs. ambient temperature - operating ambient to +85°C allowed with current derating.
- (3) Stabilized reading. Contact resistance may exceed spec in the first 3 minutes of current carry.
- (4) 1ms rise time, 10ms pulse duration.
- (5) Minimum Load: 5V/5mA
- (6) Ambient conditions and conductor size affect rating.

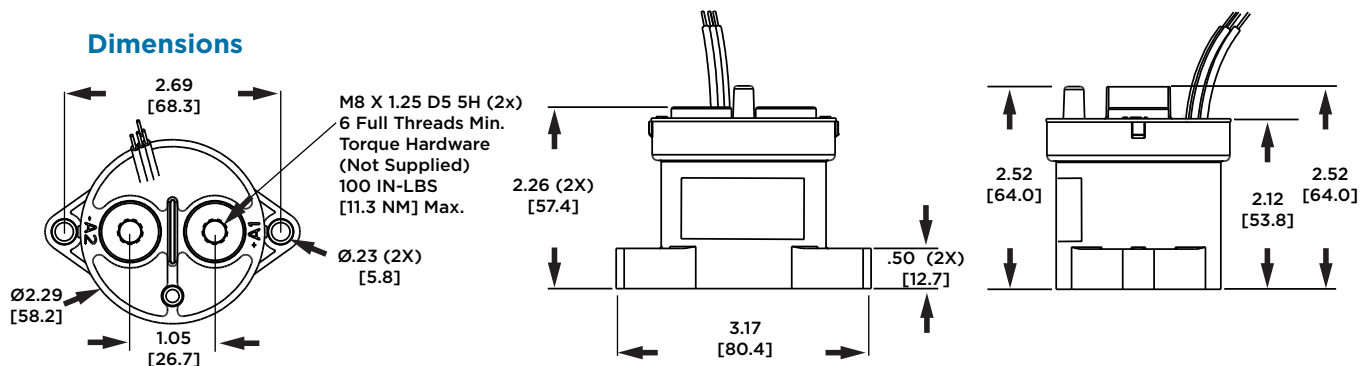
Mechanical

| | | |
|---|-------------|-----------------------|
| Contact Arrangements: Main Contacts | SPST Form X | |
| Auxiliary Contacts (3A/125Vrms or 1A/30Vdc) (5) | SPST Form A | |
| Dimensions | In [mm] | See dimensions, below |
| Weight, Nominal | Kg | 0.56 |

Environmental

| | | |
|---|-------------------|------------|
| Shock, 11ms 1/2 sine (operating) | G _{peak} | 20 |
| Sine Vibration, 20 G _{peak} | Hz | 55-2000 |
| Operating/Storage Temperature Range (6) | °C | -55 to +85 |
| Operating Altitude (max) | ft | 70,000 |

Dimensions



| TE Part No. | Description |
|-------------|--|
| 4-1618413-9 | EV600 High Voltage Contactor, 24 Volt Coil |
| 5-1618413-0 | EV600 High Voltage Contactor, 12 Volt Coil |

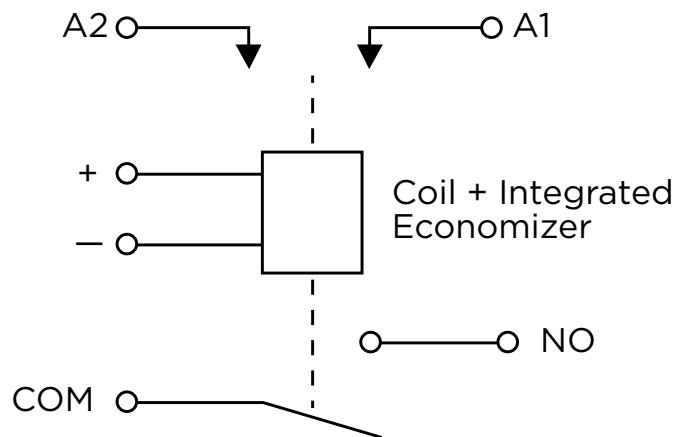


Coil Data

Coil Data @ 20C (Internal Two-Coil Economizer)

| | | 12V Coil | 24/28V Coil |
|-------------------------|----------------------|--------------------|---------------------|
| Coil Voltage Range | Vdc | 9-14 | 18-28 |
| Nominal Pickup Current | A | 5.5 | 4.5 |
| Nominal Holding Current | A | 0.25 | 0.30 |
| Pickup Voltage | Vdc | ≥ 9 | ≥ 16 |
| Dropout Voltage | Vdc | ≤ 3.5 | ≤ 10 |
| Pickup Pulse (max) | ms | 50 | 50 |
| Coil Resistance +/-5% | Ω | 2.0 Pickup/43 Hold | 5.7 Pickup/104 Hold |
| Coil Holding Power | W | 3.2 | 5.3 |
| Main Contacts: | | 20 | 20 |
| | Operate Time (max) | ms | |
| | Operate Bounce (max) | ms | |
| | Release Time | ms | |

Schematic



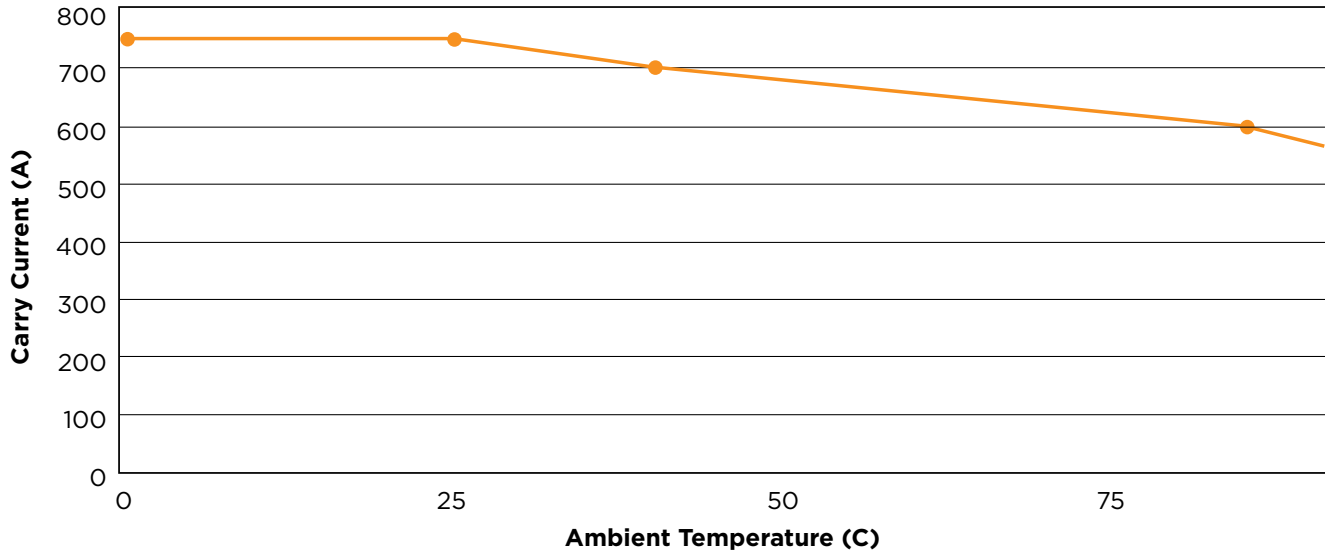
EV600 (Electronic Cut-Throat Economizer)

Coil Wire: 22 AWG, Red = +, Black = Return
 Auxiliary: 22 AWG;
 White = NO
 White = COM
 All wires Raychem FLHTC6009-22, 1kV rated

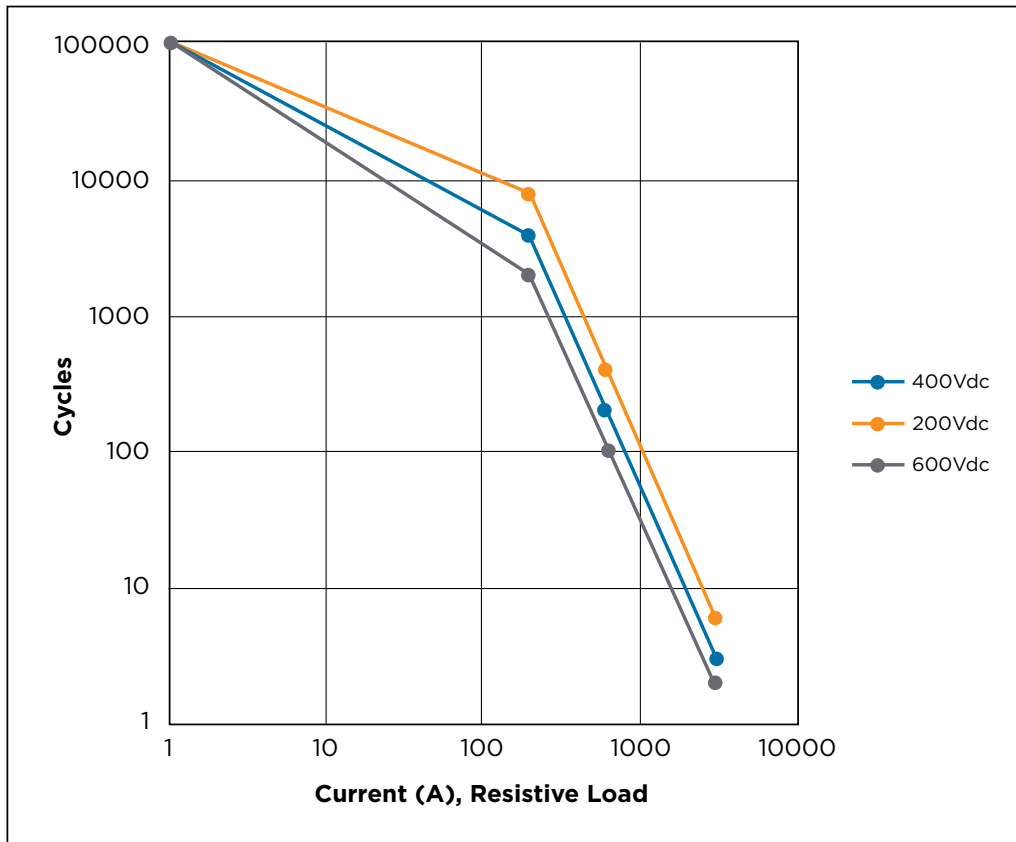


Continuous Current vs. Ambient Temperature - EV600

2x 4/0 AWG [214 mm²] conductor
 Max Terminal Temperature <170C
 Contacts Closing into > 10Adc



Continuous Current vs. Temperature



Estimated Load Switching Life vs. Voltage and Current (Break-Only >650A)

LET'S CONNECT

We make it easy to connect with our experts and are ready to provide all the support you need. Just call your local support number or visit te.com to chat with a Product Information Specialist.

Technical Support

te.com/support-center

| | | | |
|----------------------|-----------------|--------------|--------------------|
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te.com/kilovac-ev600

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Consult TE for the latest dimensions and design specifications.

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